



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/813,967 | 03/31/2004 | Clarence T. Tegreene | 0104-003-006-000000 | 9160 |
| 44765 | 7590 | 12/28/2005 | EXAMINER | |
| SEARETE LLC CLARENCE T. TEGREENE 1756 - 114TH AVE., S.E. SUITE 110 BELLEVUE, WA 98004 | | | WENDELL, ANDREW | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2643 | |

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/813,967 | Applicant(s) TEGREENE, CLARENCE T. | |
| | Examiner Andrew Wendell | Art Unit 2643 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:
It does not include the notary's signature, or the notary's signature is in the wrong place.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 7, 11, 14, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Acampora (US Pat# 5,697,066).

Regarding claim 1, Acampora's variable antenna system teaches at least one of an antenna generation unit 12 (Fig. 1) or an signal detection unit 12 (Fig. 1); and a directional antenna system 16 (Fig. 1) operably coupled 20 (Fig. 1) with the at least one of an antenna signal generation unit 12 (Fig. 1) or an antenna signal detection unit 12 (Fig. 1).

Regarding claim 2, Acampora teaches a beam-forming antenna system (Col. 1 lines 36-40).

Art Unit: 2643

Regarding claim 3, Acampora teaches a beam-steering antenna system (Col. 1 58-61).

Regarding claim 4, Acampora teaches a switched-beam antenna system (Col. 2 lines 54-59).

Regarding claim 7, Acampora teaches an adaptive-antenna system (Col. 2 lines 54-59).

Regarding claim 11, Acampora teaches an array antenna (Col. 2 lines 36-40).

Regarding claim 14, Acampora teaches an antenna steering unit (Col.1 lines 58-61 and Col. 2 lines 54-59).

Regarding claim 20, method claim 20 is rejected for the same reason as system claim 1 since the recited elements would perform the claimed steps.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 24-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishimura et al. (US Pat Appl# 2004/0005889).

Regarding claim 24, Nishimura et al. teaches forming a mote body 3 (Fig. 3); and emplacing a directional antenna 6 (Fig. 3) proximate to the mote body 3 (Fig. 3).

Art Unit: 2643

Regarding claim 25, Nishimura et al. teaches forming at least a part of the mote body from a substrate (Section 0013).

Regarding claim 26, Nishimura et al. teaches forming at least part of the directional antenna from a substrate (Fig. 13 and 14).

Regarding claim 27, Nishimura et al. teaches affixing at least part of the antenna 6 (Fig. 13) to the mote body 3 (Fig. 13).

Regarding claim 28, Nishimura et al. teaches integrating a directional antenna 6 (Fig. 3) proximate to a mote body 3 (Fig. 3) with at least one of an animate or inanimate unit (Sections 0070, 0074, and 0076).

Regarding claim 29, Nishimura et al. teaches at least one of affixing the mote body to or encasing the mote body in an inanimate structural component (Sections 0070 and 0074).

Regarding claim 30, Nishimura et al. teaches at least one of affixing the mote body to or encasing the mote in an animate structural component (Section 0076).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acampora (US Pat# 5,697,066) in view of Sezai (US Pat# 5,432,519).

Regarding claim 5, Acampora's variable antenna system teaches the limitations in claim 1. Acampora fails to teach about a horn antenna system.

Sezai's antenna system teaches a horn antenna system 11 (Fig. 7).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a horn antenna system as taught by Sezai into Acampora's variable antenna system in order to reduce beamwidth for better reception (Col. 1 lines 41-46).

Regarding claim 12, the combination including Sezai teaches a horn antenna 11 (Fig. 7).

7. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acampora (US Pat# 5,697,066) in view of Chiang et al. (US Pat Appl# 2002/0036595).

Regarding claim 6, Acampora's variable antenna system teaches the limitations in claim 1. Acampora fails to teach about electromagnetic reflector.

Chiang et al. adaptive antenna for use in wireless communication systems teaches one electromagnetic reflectors of one shape corresponding to one selected antenna pattern (Section 0004).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a electromagnetic reflector as taught by Chiang et al. into Acampora's variable antenna system in order to improve directivity of the antenna (Section 0004).

Regarding claim 8, the combination including Chiang et al. teaches a yagi antenna (Section 0003 and 0004).

Art Unit: 2643

8. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acampora (US Pat# 5,697,066) in view of Hanson et al. (US Pat# 6,296,205).

Regarding claim 9, Acampora's variable antenna system teaches the limitations in claim 1. Acampora fails to teach about a log-periodic antenna.

Hanson et al. receiver teaches a log-periodic antenna 264 (Fig. 2).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a log-periodic antenna as taught by Hanson et al. into Acampora's variable antenna system in order to receive emissions (Col. 3 lines 53-54).

Regarding claim 10, the combination including Hanson et al. teaches a parabolic antenna 268 (Fig. 2).

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Acampora (US Pat# 5,697,066) in view of Kwon (US Pat# 6,943,747).

Regarding claim 13, Acampora's variable antenna system teaches the limitations in claim 1. Acampora fails to teach about a biconical antenna.

Kwon's small and omni-directional biconical antenna for wireless communications teaches a biconical antenna (Fig. 4).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a biconical antenna as taught by Kwon into Acampora's variable antenna system in order to minimize impedance mismatch and reduce the size of the antenna (Col.2 lines 60-65).

Art Unit: 2643

10. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acampora (US Pat# 5,697,066) in view of Cetiner et al. (US Pat Appl# 2005/0062653).

Regarding claim 16, Acampora's variable antenna system teaches the limitations in claim 14. Acampora fails to teach about a micro-electro-mechanical system.

Cetiner et al. Micro-Electro-Mechanical system teaches a micro-electro-mechanical system (Section 0003 and 0004).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a micro-electro-mechanical system as taught by Cetiner et al. into Acampora's variable antenna system in order to improve RF performance, lower insertion loss and more isolation (Section 0003).

Regarding claim 15, the combination including Cetiner et al. teaches an electro-mechanical system (Section 0003 and 0004).

Regarding claim 17, the combination including Cetiner et al. teaches an electromagnetic system (Section 0082, 0006, and 0056).

11. Claims 18-19 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Acampora (US Pat# 5,697,066) in view of Nishimura et al. (US Pat Appl# 2004/0005889).

Regarding claim 18, Acampora's variable antenna system teaches the limitations in claim 1. Acampora fails to teach about a mote.

Nishimura et al. wireless communication apparatus teaches a mote 3 (Fig. 3) having the directional antenna system 6 (Fig. 3) operably coupled with the at least one

Art Unit: 2643

of an antenna signal generation unit 2 (Fig. 3) or an antenna signal detection unit 2 (Fig. 3).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a mote as taught by Nishimura et al. into Acampora's variable antenna system in order to reduce size and costs (Section 0013).

Regarding claim 19, the combination including Nishimura et al. teaches at least one of an animate or inanimate unit in physical contact (Section 0070, 0074, and 0076) with the mote 3 (Fig. 3) having the directional antenna system 6 (Fig. 3) operably coupled with the at least one of an antenna signal generation unit 2 (Fig. 3) or an antenna signal detection unit 2 (Fig. 3).

Regarding claim 21, the combination including Nishimura et al. teaches emplacing at least one of an animate or inanimate unit in physical contact with the mote (Section 0070 and 0074).

Regarding claim 22, the combination including Nishimura et al. teaches positioning an inanimate component in physical contact with the mote (Section 0070 and 0074).

Regarding claim 23, the combination including Nishimura et al. teaches positioning an animate component in physical contact with the mote (Section 0076).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Wendell whose telephone number is 571-272-0557. The examiner can normally be reached on 7:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 571-272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patent Examiner

Date: 12/21/2005



DUC NGUYEN
PRIMARY EXAMINER

ASW